REMARKS/ARGUMENTS

In this amendment, claims 8, 10, 17 and 24 are amended. No claims are cancelled or added. Thus, after entry of this amendment, claims 1-27 will be pending.

Rejection under 35 U.S.C. 112

Claims 1-7

Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. More specifically, the limitation "inputting the parallel bits into a content addressable memory and a first register during a single clock cycle" is asserted to be unsupported. The Office Action states that paragraph 0061of the specification directly contradicts this newly added limitation (i.e. delaying the input to the first register by one clock cycle). However, there is no contradiction as this one-cycle delay is from the first register to a 2nd input of the CAM and is part of a shifting operation as described below.

In one embodiment, as noted in Figure 7, "[bits] are shifted across the CAM data inputs a byte at a time." The shifting is provided to detect a match of CAM data inputs with data patterns stored in the CAM. *See specification*, ¶ 77. The CAM outputs match flags 528 which are used to control the select signal outputs S[7:0] to select the proper DATA line to output. *Id.*, ¶ 62.

A structure for shifting the bytes across the CAM data inputs is shown in Figure 5. The deserializer 509 is connected to the CAM 512 and to the register 516. The deserialized data (parallel data) is input into register 516. *Id.*, ¶ 58. The same parallel data byte also gets input into the CAM 512. *Id.*, ¶ 61. After the next clock cycle, the data byte in the register 516 is then input into the CAM 512. *Id.* As mentioned above, this simulates a byte moving down the data inputs of the CAM 512 one byte at a time.

Thus, on a first clock cycle, a data byte is input into the 1st data input of the CAM 512 and into the register 516. As part of the shifting process, on the next clock cycle, the same data byte can now be presented to the 2nd data input of the CAM 512. This is because the output of register 516, which contains the byte previously input into the 1st data inputs of the CAM 512,

is connected to the 2nd data input. Accordingly, one skilled in the art would readily recognize that a data byte from the deserializer 503 is input into the CAM 512 and the register 516 during a single clock cycle.

Accordingly, Applicant respectfully requests withdrawal of this rejection.

Claims 8-23

Claims 8-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite with regards to the limitation "the parallel output of the shift register" in lines 8-9 of claim 8. The term "parallel" in the above limitation has been deleted so reference is now made to "the output of the shift register," which has antecedent basis in the recitation of "a content addressable memory, that is coupled to an output of the shift register."

Accordingly, Applicant respectfully requests withdrawal of this rejection.

Rejection under 35 U.S.C. 103(a), Clauberg, Craft and Agrawal

Claims 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined teachings of Clauberg (US PG Publication 2002/0159483 A1) in view of Craft (US Patent 5,652,878), and in further view of Agrawal et al. (US Patent 6,919,736 B1), herein after Agrawal.

Claim 24

Claim 24 is allowable over the cited references, either alone or in combination, as those references fail to teach or suggest all the elements of claim 24. For example, claim 24 recites:

> *detecting a frame alignment symbol within the third parallel word by simultaneously comparing the third parallel word to a plurality of fixed frame alignment patterns, wherein each of the fixed frame alignment patterns are part of a respective one of a set of parallel words stored in the content addressable memory, and wherein each fixed frame alignment pattern contains the alignment symbol to be detected at a different position.*

In Clauberg, an align position detection unit 218 locates the specific bit pattern indicating the beginning of a new frame (e.g., A1A2) by "hunting" along the 192 bit word in register 216 to find the correct 64 bit section. *See Clauberg,* ¶ 32. Clauberg does not disclose

how the align position detection unit operates. *Id.* An extraction unit 222, extracts the correct 64 bit section of the 192 bit word and sends that to an output port 204. *Id.*

Craft teaches a method for compressing data by storing received data and then finding repeated patterns and replacing those matched patterns with a token. *See Craft*, col. 1 lines 24-27. Thus, the token is sent instead of the actual data, effectively compressing the data. *Id.*, col. 1 lines 27-30. Craft improves upon the prior art by using a fixed address scheme that implements a CAM to store the newly received data patterns that are used to find repeated patterns to replace with a token. *Id.*, col. 3 lines 42-50. When a match is found, then a signal on a match line 342 will cause a start address and length to be sent as a token so that the receiver can re-create the data from such a token. *Id.*, col. 5 lines 1-9 and col. 6 lines 1-5.

As Craft is directed to a compression scheme, a combination would use the compression scheme of Craft to limit the amount of aligned data that is sent from Clauberg's output port 204 to a receiver. For example, an aligned 64-bit section from the register 216 of Clauberg would be checked against the contents of Craft's CAM 330 to determine if that 64-bit section had been previously sent.

As to the contents of each CAM register, a data word is preferably stored in only one CAM register. *See Craft*, col. 4 lines 55-63. Thus, as each CAM register contains a different data word, each CAM register would not contain the same alignment symbol, particularly not at a different position. Accordingly, Clauberg and Craft do not teach or suggest "*wherein each fixed frame alignment pattern contains the alignment symbol to be detected at a different position*," as recited in claim 24.

Furthermore, as the alignment of the 64-bit section would be already determined before the CAM register of Clauberg is used, none of the data words in the CAM registers of Clauberg would contain an alignment symbol, but contain previously sent data words.

Note that the cited teaching of Agrawal fails to make up for the deficiencies in Clauberg and Craft.

For at least the reasons stated above, Applicant submits that claim 24 and its dependent claims 25-27 are allowable over the cited references.

Claims 10-12 and 17

Claim 10 has been rewritten in independent form, including all of the limitations of the original claims from which claim 10 depended, which had previously been indicated as being allowable over the cited references. As claim 10 is allowable, its dependent claims 11-12 are also allowable.

Claim 17 has been rewritten in independent form, including all of the limitations of the original independent claim 8 from which claim 17 depended, which had previously been indicated as being allowable over the cited references.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,

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